

Instructions for proposers using lunar Gateway capabilities

1) For proposers making use of the communications and data relay capabilities of the lunar Gateway:

Proposers should assume a link to the Gateway similar to that described for communication to the lunar surface, using Ka band as specified in Section 3.2.2.6 of the Communication System Interoperability document Comm_020918_R2.

2) For proposers of attached payloads on modules of the lunar Gateway:

Gateway is expected to host external payloads, providing power, data links and communications. For small external payloads (WMI/ORI interface), the following is planned:

Mass (on-orbit)	Up to 250 kg (To Be Confirmed)
Power	Max 500 W (TBC)
Data	TTE, 1 Gbps effective
Thermal	Payload-provided, passively cooled
Communications	Up to 100 Mbps downlink, near continuous communications available
Operational Volume	1 m x 1 m x 1 m (TBC)

The Gateway is expected to operate in a Near Rectilinear Halo Orbit (NRHO) in a fixed tail-to-Sun orientation, so that the Gateway attitude rotates once a month with respect to the Earth-Moon frame. Proposers should consult the document “Gateway PL IF 2019-04-19” and the International External Robotic Interoperability Standards document Robotics-020918_R1.

Further information will be posted in the Program Library when it is available.

3) For proposers of payloads with maximum mass and dimensions exceeding a 12U CubeSat, for rideshare on SLS (Space Launch System) Block 1B launches:

- Proposers should consult the SLS Mission Planners Guide for general information about SLS: e.g. Figure 4-5 gives representative Secondary Payload Jettison “Bus Stops”
- The document “SLS ESPA 27U Accommodations” gives requirements for ESPA-class payloads and 27U CubeSats on SLS Block 1B launches. These requirements should be followed unless a waiver has been obtained. The process to request waivers is in development.
- Proposers should follow SLS-RQMT-216 (Exploration Mission-1 Safety Requirements for Secondary Payload Hardware REVISION B) until safety documents for SLS Block 1B are available.

This document, and other Gateway and rideshare documents in the Program Library, may be updated periodically, but no later than 30 days before the proposal due date. It is each proposer’s responsibility to check for updates.

Program Library documents:

Comm_020918_R2

Gateway PL IF 2019-04-19

Robotics-020918_R1

SLS Mission Planners Guide

SLS ESPA 27U Accommodations

SLS-RQMT-216